

REMARKS

Claims 1 and 3 – 21 are pending in the application and are presented for reconsideration and further examination in view of the foregoing amendments and following remarks.

In the outstanding Office Action claims 1, 3 – 4, 8 – 9 and 12 – 18 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent no. 5,582,906 to Romesberg et al. (hereinafter referred to as “the Romesberg et al. ‘906 patent”); claims 2 and 19 were rejected under 35 U.S.C. §102(b) as anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over the Romesberg et al. ‘906 patent; claims 1, 5 – 8, 10 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,204,209 to Rozek et al. (hereinafter referred to as “the Rozek et al. ‘209 patent”) in view of U.S. Patent No. 3,935,353 to Doerfling et al. (hereinafter referred to as “the Doerfling et al. ‘353 patent”) and U.S. patent published patent application no. 2001/0036788 A1 to Sandoe et al. (hereinafter referred to as “the Sandoe et al. ‘788 reference”); claim 11 was rejected under 35 U.S.C. §103(a) as obvious over the Romesberg et al. ‘906 patent in view of U.S. patent no. 4,581,432 to Blum et al. (hereinafter referred to as “the Blum et al. ‘432 patent”); and claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over the Romesberg et al. ‘906 patent.

By this Response and Amendment,

claim 2 is canceled;

claims 1 and 12 are amended to recite that the layers of on the passenger compartment side of the claimed vehicle roof lining having an air flow resistance of $500\text{Nsm}^{-3} < R1 < 2500\text{Nsm}^{-3}$;

claim 19 was amended to depend from claim 1 rather than claim 2;

the anticipation rejections are traversed; and

the obviousness rejections are traversed.

Support for the amendments to claims 1 and 12 can be found in canceled claim 2. It is therefore respectfully submitted that the above amendments introduce no new matter within the meaning of 35 U.S.C. §132.

Rejections Under 35 U.S.C. §102(b)

The Examiner rejected claims 1, 3 – 4, 8 – 9 and 12 – 18 as being anticipated by the Romesberg et al. '906 patent.

Response

By this Response and Amendment, independent claims 1 and 12 have been amended. As amended, the rejections to the independent claims and the claims dependent thereon are respectfully traversed.

The test for anticipation under 35 U.S.C. §102 is whether each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Col. Of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131. The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

The present invention, as recited in amended independent claims 1 and 12, is directed to a lining for a vehicle roof, and the method for constructing same. As recited in amended claims 1 and 12 the rooflining has an air-permeable support layer with an air-permeable first reinforcement layer

on a vehicle roof side thereof and an air-permeable second reinforcement layer on a passenger compartment side thereof. An air-impermeable back layer is disposed on a vehicle roof side of the first reinforcement layer. An air-permeable decorative layer is disposed on a passenger compartment side of the second reinforcement layer. The back, first reinforcement, support, second reinforcement, and decorative layers are bonded to each other with an air-permeable adhesive. A semi-permeable and migration-resistant barrier layer is provided between the second reinforcement layer and the decorative layer (claim 12). The layers on the passenger compartment side of the claimed roof lining have an air flow resistance of $500 \text{ Nsm}^{-3} < R1 < 2500 \text{ Nsm}^{-3}$.

The Romesberg et al. '906 patent discloses a headliner for mounting in a vehicle's passenger compartment. The cited headliner discloses various laminated layers of foamed resin, fiber glass, non-woven scrim and a decorative layer; however, the Romesberg et al. '906 reference is silent as to the specific air flow resistance of the headliner.

With respect to the limitations of canceled claim 2 that have been added to claim 1, it is unreasonable to assume that the passenger compartment side of the headliner disclosed in the Romesberg et al. '906 patent has an air flow resistance of the present invention, as claimed in amended independent claims 1 and 12. The Examiner improperly assumes that the permeability of a composite is directly related solely to the materials that make up the composite. Applicants respectfully submit that this assumption is overly simplified and is not supported by elementary principles of fluid mechanics. There are a multitude of factors that must be considered when determining air permeability such as the thickness of the material as well as pore distribution and pore density throughout the material.

The thicker the material, the lower air permeability. Due to friction loss, the velocity of a

fluid traveling through the center of the pores of an air permeable material will be higher than that of the fluid traveling along the longitudinally peripheral surface of the pore. The longer the pore, the more the fluid will be slowed as it is traveling therethrough. Therefore, the length of the pore (thickness of the material) is relevant in determining air permeability of the entire material.

Also, the pore distribution density and pore diameter are other factors that affect the air flow resistance of a material. A material with a greater pore density will obviously have a lesser air flow resistance than a material with a lower pore density. Likewise, a porous material having a relatively large average pore diameter will have a lesser air flow resistance than a material with a relatively low average pore diameter. Hence, there are various characteristics of material that must also be known before its air flow resistance can be determined. These various characteristics are not shown in the Romesberg et al. '906 patent in such a way as to adequately disclose an air flow resistance of $500 \text{ Nsm}^{-3} < R1 < 2500 \text{ Nsm}^{-3}$.

The Examiner relies on *In re Fitzgerald* for the proposition that it is the Applicants' burden to disprove the Examiner's assumptions. Applicants respectfully note that *In re Fitzgerald* holds that this burden applies only *after* the Examiner has established *prima facie* obviousness or anticipation based on the inherency doctrine. *In re Fitzgerald*, 619 F.2d 67, 70 (Fed. Cir. 1980). Therefore, Applicant respectfully submits that, since multiple factors must be considered in order to accurately determine the air permeability of a material, and these multiple factors have apparently not been considered by the Examiner, the Examiner has not established anticipation through inherency. If the Examiner feels she has established anticipation through inherency, it is respectfully submitted that Applicants have rebutted the Examiner's position that air permeability is adequately shown in the prior art to anticipate the air flow resistance recited in amended claims 1 and 12 of the present

application. Applicants therefore assert that claims 1 and 12 of the present application are patentable over the Romesberg et al. '906 patent. Furthermore, since dependent claims contain all of the limitations of the independent claims from which they depend, Applicants assert that claims 3 – 4, 8 – 9 and 13 – 18 are patentable over the Romesberg et al. 906 reference for at least the same reasons as claims 1 and 12.

Rejections Under 35 U.S.C. §§102(b)/103(a)

The Examiner rejected claims 2 and 19 as being anticipated by or, in the alternative, as being obvious over the Romesberg et al. '906 patent.

Response

By this Response and Amendment, claim 2 has been canceled thereby rendering the rejection thereto moot.

Applicants hereby incorporate by reference the arguments above with respect to the anticipation rejection of claim 1. In addition to those arguments, Applicants traverse the rejections because all three prongs for a *prima facie* case of obviousness have not been established for each of the rejections. Specifically, all of the claim limitations are not present in the cited references.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

Claim 19 is patentable over the Romesberg et al. patent in view of the fact that, as stated

above with respect to claim 1, the Romesberg et al. patent does not disclose all of the limitations thereof. In particular, the Romesberg et al. patent does not disclose the range of air flow resistance recited in amended claims 1 or 19. Nor does the Romesberg teach or suggest the claimed ranges recited in claims 1 and 19. Therefore, claim 19 is patentable over the cited prior art for at least the above-mentioned reasons. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejection.

Rejection of Claims 1, 5 – 8, 10 and 20 Under 35 U.S.C. §103(a)

The Examiner rejected claims 1, 5 – 8, 10 and 20 as obvious over the Rozek et al. '209 patent in view of the Doerfling et al. '353 patent and the Sandoe et al. '788 reference.

Response

By this Response and Amendment, independent claim 1 has been amended. As amended, the rejection thereto and the rejections to the claims dependent thereon are respectfully traversed. Applicants traverse the rejections because all three prongs for a *prima facie* case of obviousness have not been established for each of the rejections. Specifically, all of the claim limitations are not present in the cited references.

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

The present invention, as recited in independent claim 1, is directed to a lining for a vehicle

roof. As recited in claim 1, the rooflining has an air-permeable support layer with an air-permeable first reinforcement layer on a vehicle roof side thereof and an air-permeable second reinforcement layer on a passenger compartment side thereof. An air-impermeable back layer is disposed on a vehicle roof side of the first reinforcement layer. An air-permeable decorative layer is disposed on a passenger compartment side of the second reinforcement layer. The back, first reinforcement, support, second reinforcement, and decorative layers are bonded to each other with an air-permeable adhesive. The layers on the passenger compartment side of the claimed roof lining have an air flow resistance of $500 \text{ Nsm}^{-3} < R1 < 2500 \text{ Nsm}^{-3}$.

The Rozek '209 patent discloses a thermoformed contoured laminated structure for use as a decorative sound absorbing panel for vehicle applications. The cited headliner discloses various porous rigid, porous fibrous and reinforcing layers; however, the Rozek et al. '209 reference is silent as to the specific air flow resistance of the headliner.

With respect to the limitations of canceled claim 2 that have been added to claim 1, it is unreasonable to assume that the passenger compartment side of the headliner disclosed in the Rozek et al. '209 patent has an air flow resistance of the present invention, as claimed in amended independent claim 1. The Examiner improperly assumes that the permeability of a composite is directly related solely to the materials that make up the composite. Applicants respectfully submit that this assumption is overly simplified and is not supported by elementary principles of fluid mechanics. There are a multitude of factors that must be considered when determining air permeability such as the thickness of the material as well as pore distribution and pore density throughout the material.

The thicker the material, the lower air permeability. Due to friction loss, the velocity of a

fluid traveling through the center of the pores of an air permeable material will be higher than that of the fluid traveling along the longitudinally peripheral surface of the pore. The longer the pore, the more the fluid will be slowed as it is traveling therethrough. Therefore, the length of the pore (thickness of the material) is relevant in determining air permeability of the entire material.

Also, the pore distribution density and pore diameter are other factors that affect the air flow resistance of a material. A material with a greater pore density will obviously have a greater air flow resistance than a material with a lower pore density. Likewise, a porous material having a relatively large average pore diameter will have a greater air flow resistance than a material with a relatively low average pore diameter. Hence, there are various characteristics of material that must be known before its air flow resistance can be determined. Air flow resistance is not shown in the Romesberg et al. '906 patent in such a way as to adequately disclose an air flow resistance of $500 \text{ Nsm}^{-3} < R1 < 2500 \text{ Nsm}^{-3}$.

The Examiner relies on *In re Fitzgerald* for the proposition that it is the Applicants' burden to disprove the Examiner's assumptions. Applicants respectfully note that *In re Fitzgerald* holds that this burden applies only *after* the Examiner has established *prima facie* obviousness or anticipation based on the inherency doctrine. *In re Fitzgerald*, 619 F.2d 67, 70 (Fed. Cir. 1980). Therefore, Applicant respectfully submits that, since multiple factors must be considered in order to accurately determine the air permeability of a material, and these multiple factors have apparently not been considered by the Examiner, the Examiner has not established *prima facie* obviousness through the inherent properties of the material. If the Examiner feels she has established *prima facie* obviousness through inherency, it is respectfully submitted that Applicants have rebutted the Examiner's position that air permeability is adequately shown in the prior art render the air flow

resistance recited in amended claim 1 of the present application obvious. Applicants therefore assert that claim 1 of the present application is patentable over the Rozek et al. '209 patent.

Neither of the secondary references account for the deficiencies of the primary Rozek et al. '209 patent; neither the Rozek et al. '209 patent, the Doerfling et al. '353 patent, nor the Sandoe et al. '788 reference show a vehicle headliner having layers on a passenger side with an air flow resistance of $500 \text{ Nsm}^{-3} < R1 < 2500 \text{ Nsm}^{-3}$. Moreover, none of the references alone or in combination with each other teach or suggest all of the limitations of independent claim 1 of the present application.

Since dependent claims contain all of the limitations of the independent claims from which they depend, Applicants assert that claims 5 – 8, 10 and 20 are patentable over the cited references for at least the same reasons as claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejections.

Rejection of Claim 11 Under 35 U.S.C. §103(a)

The Examiner rejected claim 11 as being unpatentable over the Romesberg et al. '906 patent in view of the Blum et al. '432 patent.

Response

Applicants hereby incorporate by reference the arguments above with respect to the anticipation rejection of claim 1 and the obviousness rejection of claim 1.

The cited secondary reference does not account for the deficiencies of the primary Romesberg et al. '906 patent. Neither the Romesberg et al. '906 patent nor the Blum et al. '432 patent show a vehicle headliner having layers on a passenger side with an air flow resistance of $500 \text{ Nsm}^{-3} < R1 <$

2500 Nsm⁻³. Moreover, neither of the references alone or in combination with each other teach or suggest all of the limitations of claim 11 of the present application.

Applicants therefore assert that claim 11 of the present application is patentable over the cited prior art. Accordingly, reconsideration and withdrawal of the rejections is respectfully requested.

Rejections Under 35 U.S.C. §103(a)

The Examiner rejected claim 21 as being obvious over the Romesberg et al. '906 patent.

Response

Applicants hereby incorporate by reference the arguments above with respect to the anticipation rejection of claim 1 and the obviousness rejection of claim 1.

Claim 21 is patentable over the Romesberg et al. patent in view of the fact that, as stated above with respect to claim 1, the Romesberg et al. patent does not disclose all of the limitations thereof. In particular, the Romesberg et al. patent does not disclose the range of air flow resistance recited in amended claim 1. Therefore, since claim 21 contains all of the limitations of the independent claim from which it depends, claim 1, claim 21 is patentable over the cited prior art for at least the above-mentioned reasons. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the outstanding rejection.

CONCLUSION

In light of the foregoing, Applicants submit that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.


Respectfully submitted,

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